REMARKS

This responds to the Office Action mailed on January 20, 2006.

Claims 1, 2, 8-10, 17, 24 and 28 are amended; as a result, claims 1-30 are now pending in this application. No new matter was added by these amendments. The rephrasing of the amended claims has support in the specification:

> FIG. 1 is a side cross-section of a mounting substrate 100 according to an embodiment. The mounting substrate 100 includes a substrate core 110, an upper protective layer 112, and a lower protective layer 114. In one embodiment, the upper protective layer 112 is referred to as a first surface, and the lower protective layer 114 is referred to as a second surface. A via 116 is depicted penetrating the substrate core 110, the upper protective layer 112, and the lower protective layer 114.

§102 Rejection of the Claims

Claims 1, 3-9, 17-21, and 24-26 were rejected under 35 USC § 102(b) as being anticipated by Hashemi (U.S. 6,252,178 B1). Applicant respectfully traverses this rejection and requests the Office to consider the following.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." (*Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987), M.P.E.P. §2131, 8th Ed., Rev. 1). Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. *In re Dillon* 919 F.2d 688, 16 USPQ 2d 1897, 1908 (Fed. Cir. 1990) (en banc), cert. denied, 500 U.S. 904 (1991). It is not enough, however, that the prior art reference discloses all the claimed elements in isolation. Rather, A[a]nticipation requires the presence in a single prior reference disclosure of each and every element of the claimed invention, *arranged as in the claim.@ Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added). AThe identical invention must be shown in as complete detail as is contained

in the ... claim.@ *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); MPEP § 2131.

The claims have been reworded in the alternative as set forth from the specification to include the upper and lower protective layers as alternative language. As such, Hashemi does not anticipate the claims. Withdrawal of the rejections is respectfully requested.

Claims 2, 8-12, 14-18, and 20-27 were rejected under 35 USC § 102(b) as being anticipated by Horiuchi et al. (U.S. 6,084,295). Applicant respectfully traverses this rejection and requests the Office to consider the following.

The claims have been reworded in the alternative as set forth from the specification to include the upper and lower protective layers as alternative language. As such, Horiuchi et al. does not anticipate the claims. Withdrawal of the rejections is respectfully requested.

The Office Action asserts that "Horiuchi discloses, referring primarily to figures 4 and 5, an article comprising ... a first wire-bond pad (22) ... and a first via (18) ... wherein the first via is disposed directly below the first wire-bond pad ...." (Office Action at page 4). Applicant respectfully disagrees. Horiuchi teaches "[s]ince it is impossible to form the bonding pad 22 and the land 24 at the through-hole, they are provided on the peripheral edge of the via 18 ...." (Horiuchi at column 3, lines 63-65). Consequently, Horiuchi teaches the contrary of this claim limitation and therefore does not anticipate what is claimed. Withdrawal of the rejection is respectfully requested.

Regarding claim 8, since Horiuchi teaches "the bonding pad 22" is "on the peripheral edge of the via 18", the limitation of claim 8, of "wherein the first via is disposed symmetrically and directly below the first wire-bond pad", cannot be met in Horiuchi. Claim 9 depends from claim 8, but also is not taught by Horiuchi since Horiuchi teaches "the bonding pad 22" is "on the peripheral edge of the via 18". Regarding claim 12, the Office asserts that structure 24 is a trace. Horiuchi defines it as a "land 24" (Horiuchi at column 3, line 55 et seq). Regarding claim 15, since Horiuchi teaches "the bonding pad 22" is "on the peripheral edge of the via 18", Horiuchi cannot meet the limitations of claim 15 of "directly above". Regarding claim 16, since Horiuchi teaches "[s]ince it is impossible to form the bonding pad 22 and the land 24 at the through-hole, they are provided on the peripheral edge of the via 18 ...." (Horiuchi at column 3,

lines 63-65), the limitation of claim 16 that "each bump is directly below a corresponding via" cannot be met in Horiuchi. Withdrawal of the rejection is respectfully requested.

The Office Action also asserts that "Horiuchi discloses a package comprising: a wire-bonding mounting substrate (5) ... a first wire-bond pad (22) ... a first via (18) ... a second wire-bond pad ... a second via ... and wherein the first via and the second via are staggered with respect to the first edge ...." (Office Action at page 4). Applicant respectfully disagrees. Firstly, the Office has not identified a "first edge" in Horiuchi. Secondly, the vias that are disclosed are illustrated in a linear arrangement and not in a staggered arrangement as claimed and illustrated in the instant application. Withdrawal of the rejection is respectfully requested.

§103 Rejection of the Claims

Claims 13 was rejected under 35 USC § 103(a) as being unpatentable over Horiuchi in view of Walton (U.S. 5,936,844). Applicant respectfully traverses the rejection and requests the Office to consider the following.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vacek,* 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) (M.P.E.P. §2143 8th Ed. Rev. 1).

The claims as amended (claim 13 depends from amended claim 8) are not taught or suggested by the combined references. Because all the claim limitations are not taught in the cited references, withdrawal of the rejection is respectfully requested.

Claims 28-30 were rejected under 35 USC § 103(a) as being unpatentable over Walton in view of Horiuchi. Applicant respectfully traverses the rejection and requests the Office to consider the following.

The claims as amended (claims 29 and 30 depends from amended claim 28) are not taught or suggested by the combined references. Because all the claim limitations are not taught in the cited references, withdrawal of the rejection is respectfully requested.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney John Greaves at 801-278-9171, or the below-signed attorney at (612) 349-9592, to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 2 day of March 2006.

Chris Hammond Chris Hammond

Name Signature